Massachusetts Department of Environmental Protection
Bureau of Waste Prevention **–** Air Quality – NOx Allowance Trading Program

BWP AQ26 Public Benefit Set Aside NOx Allowance

Introduction

DEP *Applications*, as well as *Instructions & Supporting Materials*, are available for download from the DEP Web site at mass.gov/dep in two file formats: Microsoft Word® and Adobe Acrobat PDF® Either format allows documents to be printed.

The Microsoft Word® format files include a number of separate documents. Although we recommend that you print out the entire application package, including instructions and all materials, you may choose to print specific documents by selecting the appropriate page numbers for printing. *Applications* in Microsoft Word® format must be downloaded separately. Users with Microsoft Word® 97 or later may complete the *Application* form electronically.

Application packages in Adobe Acrobat PDF® format combine *Applications* and *Instructions & Supporting Materials* in a single document. Adobe Acrobat PDF® files may only be viewed and printed without alteration. *Applications* in this format may not be completed electronically.

Instructions: Public Benefit Set Aside NOx Allowance Program

1. What is the purpose of the Public Benefit Set-Aside (PBSA) program?

As part of Massachusetts' NOx Budget Trading Program, 310 CMR 7.28, the Department has established a PBSA program at 310 CMR 7.28(6)(b) to encourage Energy Efficiency Projects (EEPs) and Renewable Energy Projects (REPs). This program provides for the allocation of a limited number of NOx allowances, based on the energy saved by EEPs and the energy generated by REPs.

2. Is participation in the PBSA program required?

No. Participation in the PBSA program is completely voluntary. Participation is not required by statute or regulation.

3. Who may apply for PBSA NOx Allowances?

An application may be submitted by a Project Proponent, which means any person who owns, leases, operates or controls an EEP or an REP. An application may also be submitted by a Representative, which means any party who aggregates one or more EEPs or REPs in order to reach the minimum threshold of one whole allowance. A Representative may include a common owner of projects, an energy service company, an emission trading broker or a state or municipal entity. (See *Definitions*, 310 CMR 7.28(2).)

BWP AQ26 Public Benefit Set Aside NOx Allowance

4. How do I submit an application?

For your application to be considered complete, you must submit the BWP AQ26 Application form and provide all information requested in that form. Applications must be submitted both electronically and in hard copy. Electronic filings must include a spreadsheet showing the calculations used to determine the amount of energy saved or generated, according to the formulas in the regulation. (See *PBSA Procedures*, 310 CMR 7.28(6)(b)9.b.)

The electronic copy of the application and any supporting materials must be e-mailed to: Edward.Szumowski@state.ma.us (978-975-1138, Ext. 345)

One hard copy of the application and supporting materials must be mailed to:

Department of Environmental Protection
Air Assessment Branch
Attention: PBSA
37 Shattuck Street
Lawrence, MA 01843

5. Is there an application fee?

There is no application fee for BWP AQ 26.

6. What projects are eligible for allowances?

The definitions of Energy Efficiency Projects (EEPs) and Renewable Energy Projects (REPs) describe the types of projects that are eligible. (See *Definitions*, 310 CMR 7.28(2).)

Projects meeting these definitions must have become operational after December 31, 1999 in order to be eligible for allowances. PBSA allowances will not be allocated for energy saved or generated by any project prior to calendar year 2002. (See *Timing of Allowances*, 310 CMR 7.28(6)(b)(10).)

7. What are the application deadlines?

a. Allowances for 2003 and 2004:

In 2004, completed applications for PBSA allowances must be received by the Department by September 1, 2004. In 2004, a proponent may request PBSA allowances designated for year 2003 and year 2004. If you are applying for both 2003 and 2004 allowances for a project, you must submit a request for allowances for each year by the September 1, 2004 deadline. One application covering both 2003 and 2004 allowances is sufficient, but it must include separate calculations for energy saved or generated in each year. The allocation of 2003 allowances will be based on energy saved or generated in calendar year 2002. The allocation of 2004 allowances will be based on energy saved or generated in calendar year 2003.

BWP AQ26 Public Benefit Set Aside NOx Allowance

What are the application deadlines? (Cont.)

b. Allowances for 2005 and Subsequent Years:

In 2005, and each year thereafter, completed applications for PBSA allowances must be received by the Department by April 1st of each year. The designated year of the PBSA allowance will correspond to the calendar year in which the application is submitted. The allocation will be based on the energy saved or generated in the calendar year preceding the year in which the application is submitted. (See *Timing of Allowances*, 310 CMR 7.28(6)(b)(10) and the table below.)

Year energy is saved or generated	Application Due	Year of Allowance	Allocation Date
2002	*September 1, 2004*	*2003*	*November 1, 2004*
2003	*September 1, 2004*	*2004*	*November 1, 2004*
2004	*April 1, 2005*	*2005*	*November 1, 2005*
Subsequent years	*April 1 of each subsequent year*	*Same as year of application*	*November 1 of year of application*

8. How many years can I receive allowances for any one project?

Allowances may be awarded to an EEP for up to 7 years. (EEPs are presumed to have a useful life of 7 years.) The 7 years must be consecutive and start immediately following the year the project first becomes operational.

Allowances may be awarded to an REP for as long as the project is generating energy.

Allowances will be allocated annually. If there are more eligible projects than available allowances, allowances will be allocated on a pro rata basis. An award of allowances in one year does not ensure the award of the same number of allowances in a subsequent year.

9. If my project is ongoing, may I request allowances for more than one year?

Projects may be awarded allowances for more than one year. In 2004, projects may request 2003 and 2004 allowances. In 2005 and later years, a separate application must be submitted for each project each year.

BWP AQ26 Public Benefit Set Aside NOx Allowance

10. How do I calculate the number of allowances that my project is eligible for?

The regulation contains formulas for the calculation of allowances for different types of projects. (See 310 CMR 7.28(6)(b)(7).) Allowances must be calculated using the formulas in the regulation except for projects that do not singly, or in the aggregate, exceed five allowances. For these smaller projects, other reliable, replicable methods of quantifying allowances may be used. The Department will determine if such other methods are acceptable.

Because the formulas are complicated, the following explanations are provided.
NOTE: If there is a difference between a provision of 310 CMR 7.28(6)(b)(7) and any of the following explanations, the regulation will govern.

a. REPs Generating Electrical Energy

Allowances are calculated by multiplying:
(the megawatt hours of electricity generated by renewable power)
times
(the allocation rate of 1.5 pounds of allowances per megawatt hour).

b. REPs Generating Useful Net Thermal Energy

Allowances are calculated by multiplying:
(the number of millions of British thermal units of thermal energy generated by renewable power)
times
(the allocation rate of 0.44 pounds of allowances per million of British thermal units).

c. EEPs Saving Electrical Energy

Allowances are calculated by multiplying:
(the megawatt hours of electricity saved due to implementing an energy efficiency project)
times
(the allocation rate of 1.5 pounds of allowances per megawatt hour).

d. EEPs Saving Thermal Energy

Allowances are calculated by multiplying:
(the number of millions of British thermal units of thermal energy saved due to implementing an energy efficiency project)
times
(the allocation rate of 0.44 pounds of allowances per million of British thermal units).

e. EEPs Saving Thermal or Mechanical Energy in a Manufacturing Process

Allowances are calculated by multiplying:
(energy saved due to a change in manufacturing process)
times
(the NOx emission rate after the change in the manufacturing process (adjusted to penalize increases in the emission rate and reward decreases in the emission rate)).

BWP AQ26 Public Benefit Set Aside NOx Allowance

10. How do I calculate the number of allowances that my project is eligible for? (cont'd)

f. EEPs That Are Combined Heat and Power Systems With Actual Energy Efficiency Equal to or Greater Than 60%

i. For CHP systems, allowances are determined by first calculating the overall efficiency of the combined heat and power (CHP) system and determining if the system is at least 60% efficient at turning fuel into energy. If the system meets the 60% threshold, the project proponent continues on to the next calculation.

ii. Allowances are calculated by comparing the actual emissions from the CHP system to a conventional system that includes a utility power plant for electricity and an industrial boiler for steam. The conventional system is assumed to have: an emission factor of 0.15 lbs. NOx/MMBtu; an electric generation efficiency of 34%; and a steam boiler efficiency of 80%.

11. What is the timeline for DEP's review of applications?

Following receipt of the applications, DEP will process the applications as expeditiously as possible and allocate allowances by November 1 of each year. After reviewing an application, DEP may request that the project proponent submit additional information if the application is incomplete or if the information submitted does not adequately document the energy saved or generated by the project.

12. What regulations apply to the PBSA program? Where can I get copies?

Applicable Massachusetts regulations include, but are not limited to, the following:

a. Air Quality Regulations, 310 CMR 7.00 et seq.
b. NOx Allowance Trading Program, 310 CMR 7.28; PBSA definitions, 310 CMR 7.28(2), and PBSA program, 310 CMR 7.28(6)(b).
c. Regulations of the Department of Telecommunications and Energy, 220 CMR 11.00 et seq., Rules Governing the Restructuring of the Electric Industry.
d. Regulations of the Office of the Attorney General, 940 CMR 19.00 et seq., Retail Marketing and Sale of Electricity.
e. Energy Conservation provisions of the MA Building Code, 780 CMR Chapter 13.

These may be purchased at:

State Bookstore (in State House)
Room 116
Boston, MA 02133
617-727-2834

State House West Bookstore
436 Dwight Street, Room 102
Springfield, MA 01103
413-784-1376

The unofficial version of these regulations may also be obtained from the DEP Web site at http://www.mass.gov/dep/bwp/daqc/daqcpubs.htm#regs, or from the Web sites of the other agencies listed above.

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention **–** Air Quality – NOx Allowance Trading Program

BWP AQ26 Public Benefit Set Aside NOx Allowance

Application Completeness Checklist

□ Complete the BWP AQ26 Application form and provide all information requested.

□ The completed application form must be submitted both electronically and in hard copy. Any additional information (e.g. drawings) that cannot be submitted electronically may be submitted in hard copy only.

□ One hard copy of the application and any supporting materials must be mailed to:

Department of Environmental Protection
Air Assessment Branch Attention: PBSA
37 Shattuck Street
Lawrence, MA 01843

□ Electronic filings should be submitted to Edward.Szumowski@state.ma.us and must include a spreadsheet showing the calculations of energy saved or generated by the project based on the formulas contained in the regulation (or for projects that do not exceed 5 allowances, based on other reliable, replicable methods of quantification that are approved by the Department).

□ The Part B Certification must be signed and submitted with the hard copy of the application.

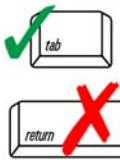
Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

A. Summary of Project Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Project Proponent Information:

Name

Street Address

City | State | Zip Code

Mailing Address (if Different)

City | State | Zip Code

Phone Number | Fax Number

Contact Person Name | Email Address | Phone Number

2. Is the Proponent acting as a Representative who is aggregating more than one project? (See instructions and 310 CMR 7.28(2), *Definitions.*)

☐ Yes ☐ No

3. Project contact person (if different than proponent):

Name

Title | Email Address | Phone Number

4. Type of project:

☐ Energy Efficiency ☐ Renewable Energy ☐ Single Project ☐ Aggregated Projects

5. Narrative description of project, including site location with street address: (If the application is for aggregated projects, provide type of project, location and description of each project that is being aggregated.)

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

A. Summary of Project Information (cont.)

6. Project Dates - If application is for aggregated projects, identify and provide dates for each project:

REPs

Date REP Was Built

Date REP Began Generating Energy

EEPs

New buildings or building addition:

Date Built

Date Put Into Use

Materials:

Date Materials Installed

Equipment:

Date Equipment Became Operational

Procedures:

Date Procedures Became Operational

7. Number of allowances being requested:

2003 Allowances

2004 Allowances

B. Certification

This form must be signed by the project proponent.

As the project proponent, or the person fully authorized to make this certification on behalf of the project proponent, I certify that I personally examined the foregoing information, I am familiar with the information contained in this application and any attachments thereto and that, based on my inquiry of those persons immediately responsible for obtaining the information, I believe that the information contained in this application (including the quantification of the total amount of energy generated or saved by the project or projects), is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment.

Signature of Person Authorized To Make This Certification

Print Name

Title

Date

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

Choose the appropriate table below based on the type of project. Use the applicable formula in the regulation to calculate the energy saved or generated by the project and the number of allowances you are requesting. Applicants will need to thoroughly review the regulation in order to calculate the allowances correctly.

You must attach to your electronic application a spreadsheet that includes your calculations.

If your project does not exceed five allowances you may use reliable and replicable quantification methods other than the formulas provided in the regulation. If you do so, you must attach a description of your methodology, including a narrative description and a spreadsheet. The Department will determine if such other methods are acceptable.

If the application is for 2003 and 2004 allowances, you must provide calculations for each year separately.

If the application is for aggregated projects, you must provide calculations for each of the projects being aggregated. (Multiple lines in each of the tables below are provided for aggregated projects.)

1. REPs Generating Electrical Energy: See formula at 310 CMR 7.28(6)(b)7.a.

Project Name	Net MWh Generated by project (Check either ozone season or 5/12 of annual.)		2003 Allowances applied for based on energy generated in 2002	2004 Allowances applied for based on energy generated in 2003
	☐Ozone season ☐5/12 of annual	MWh		
	☐Ozone season ☐5/12 of annual	MWh		
	☐Ozone season ☐5/12 of annual	MWh		

2. REPs Generating Useful Net Thermal Energy: See formula at 310 CMR 7.28(6)(b)7.b.

Project Name	Useful Net MMBtu output of project (Check either ozone season or 5/12 of annual.)		2003 Allowances applied for based on energy generated in 2002	2004 Allowances applied for based on energy generated in 2003
	☐Ozone season ☐5/12 of annual	MMBtu		
	☐Ozone season ☐5/12 of annual	MMBtu		
	☐Ozone season ☐5/12 of annual	MMBtu		

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

C. Allowance Calculations (cont.)

3. EEPs Saving Electrical Energy: New Building or Addition – 2004 Allowances
See complete formula and description at 310 CMR 7.28(6)(b)7.c.iii.

Project Name	Electrical energy consumed during 2003 control period	Electrical energy that would have been consumed during 2003 control period if constructed according to 780 CMR 1301 et. seq.	Saved MWh (Check either ozone season or 5/12 of annual)		2004 Allowances Applied For
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	

4. EEPs Saving Electrical Energy: New Building or Addition – 2003 allowances.
See complete formula and description at 310 CMR 7.28(6)(b)7.c.iv.

Project Name	Electrical energy consumed during 2002 control period	Electrical energy that would have been consumed during 2002 control period if constructed according to 780 CMR 1301 et. seq.	Saved MWh (Check either ozone season or 5/12 of annual)		2003 Allowances Applied For
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	

5. EEPs Saving Electrical Energy: Other than New Building or Addition – 2004 Allowances
See complete formula and description at 310 CMR 7.28(6)(b)7.c.ii.

Project Name	Electrical energy consumed during 2003 control period	Electrical energy consumed during PBSA baseline period	Saved MWh (Check either ozone season or 5/12 of annual)		2004 Allowances Applied For
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

C. Allowance Calculations (cont.)

6. EEPs Saving Electrical Energy: Other than New Building or Addition – 2003 Allowances
See complete formula at 310 CMR 7.28(6)(b)7.c.iv.

Project Name	Electrical energy consumed during 2002 control period	Electrical energy consumed during PBSA baseline period	Saved MWh (Check either ozone season or 5/12 of annual)		2003 Allowances Applied For
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	
			☐Ozone season ☐5/12 of annual	MWh	

7. EEPs Saving Thermal Energy: New Building or Addition – 2004 Allowances.
See complete formula and description at 310CMR 7.28(6)(b)7.d.iii.

Project Name	Thermal energy consumed during 2003 control period	Thermal energy that would have been consumed if constructed according to 780 CMR 1301 et seq.	Saved MMBtu (Select either ozone season or 5/12 of annual)		2004 Allowances Applied For
			☐Ozone season ☐5/12 of annual	MMBtu	
			☐Ozone season ☐5/12 of annual	MMBtu	
			☐Ozone season ☐5/12 of annual	MMBtu	

8. EEPs Saving Thermal Energy: New Building or Addition – 2003 Allowances.
See complete formula and description at 310 CMR 7.28(6)(b)7.d.iv. (Paragraph 1).

Project Name	Thermal energy consumed during 2002 control period	Thermal energy that would have been consumed if constructed according to 780 CMR 1301 et seq.	Saved MMBtu (Select either ozone season or 5/12 of annual)		2003 Allowances Applied For
			☐Ozone season ☐5/12 of annual	MMBtu	
			☐Ozone season ☐5/12 of annual	MMBtu	
			☐Ozone season ☐5/12 of annual	MMBtu	

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

C. Allowance Calculations (cont.)

9. EEPs Saving Thermal Energy: Other than New Building or Addition – 2004 Allowances
See complete formula and description at 310 CMR 7.28(6)(b)7.d.ii.

Project Name	Thermal energy consumed during 2003 control period	Thermal energy consumed during PBSA baseline period	Saved MMBtu (Select either ozone season or 5/12 of annual)		2004 Allowances Applied For
			☐ Ozone season ☐ 5/12 of annual	MMBtu	
			☐ Ozone season ☐ 5/12 of annual	MMBtu	
			☐ Ozone season ☐ 5/12 of annual	MMBtu	

10. EEPs Saving Thermal Energy: Other than New Building or Addition **–** 2003 Allowances
See complete formula and description at 310 CMR 7.28(6)(b) 7.d.iv. (Paragraph 2).

Project Name	Thermal energy consumed during 2002 control period	Thermal energy consumed during PBSA baseline period	Saved MMBtu (Select either ozone season or 5/12 of annual)		2003 Allowances Applied For
			☐ Ozone season ☐ 5/12 of annual	MMBtu	
			☐ Ozone season ☐ 5/12 of annual	MMBtu	
			☐ Ozone season ☐ 5/12 of annual	MMBtu	

11. EEPs Saving Thermal or Mechanical Energy in a Manufacturing Process Where Energy Consumption is Measured on a Unit of Production Basis – 2004 Allowances
See complete formula and description at 310 CMR 7.28(6)(b)7.e.

Project Name	Energy to produce 1 unit before project (ET1/PT1)	Energy to produce 1 unit after project (ET2/PT2)	# of units produced in 2003 (PT2)	NOx emissions rate before project (NPT1)	NOx emissions rate after project (NPT2)	Energy saved by project in 2003	2004 Allowances Applied For

Project 1 (select one): ☐ Ozone season ☐ 5/12 of annual
Project 2 (select one): ☐ Ozone season ☐ 5/12 of annual

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

C. Allowance Calculations (cont.)

12. EEPs Saving Thermal or Mechanical Energy in a Manufacturing Process Where Energy Consumption is Measured on a Unit of Production Basis – 2003 Allowances
See complete formula and description at 310 CMR 7.28(6)(b)7.e.

Project Name	Energy to produce 1 unit before project (ET1/PT1)	Energy to produce 1 unit after project (ET2/PT2)	# of units produced in 2002 (PT2)	NOx emissions rate before project (NPT1)	NOx emissions rate after project (NPT2)	Energy saved by project in 2002	2003 Allowances Applied For

Project 1 (select one): ☐ Ozone season ☐ 5/12 of annual
Project 2 (select one): ☐ Ozone season ☐ 5/12 of annual

13. EEPs That are Combined Heat and Power Systems With Actual Energy Efficiency Equal to or Greater Than 60% – 2004 Allowances
See complete formula and description at 310 CMR 7.28(6)(b)7.f.i.

Step 1. Efficiency calculation.

Project Name	Net useful electrical output converted to Btus per unit of time (NEO)	Net useful thermal energy output or energy output in Btus per unit of time (UTO)	Gross energy input (GEI)	% Efficiency

Step 2. Allowance calculation for projects that achieve required efficiency.
See complete formula and description at 310 CMR 7.28(6)(b)7.f.ii.

NOx Conventional*	NOx CHP System**	Tons NOx emitted (Check either ozone season or 5/12)		2004 Allowances Applied For
		☐Ozone season ☐5/12 of annual	Tons	
		☐Ozone season ☐5/12 of annual	Tons	

* Include kWh and HeatOut in your spreadsheet
** Include BtuIn and NoxRate in your spreadsheet

BWP AQ 26

Application for 2003 and 2004 PBSA NOx Allowances

C. Allowance Calculations (cont.)

14. EEPs That are Combined Heat and Power Systems With Actual Energy Efficiency Equal to or Greater Than 60% – 2003 Allowances
See complete formula and description at 310 CMR 7.28(6)(b)7.f.i.

Step 1. Efficiency calculation.

Project Name	Net useful electrical output converted to Btus per unit of time (NEO)	Net useful thermal energy output or energy output in Btus per unit of time (UTO)	Gross energy input (GEI)	% Efficiency

Step 2. Allowance calculation for projects that achieve required efficiency.
See complete formula and description at 310 CMR 7.28(6)(b)7.f.ii.

NOx Conventional*	NOx CHP System**	Tons NOx emitted (Check either ozone season or 5/12)		2003 Allowances Applied For
		☐Ozone season ☐5/12 of annual	Tons	
		☐Ozone season ☐5/12 of annual	Tons	

* Include kWh and HeatOut in your spreadsheet
** Include BtuIn and NoxRate in your spreadsheet